



# Effectiveness of the *Rumoh Gizi Gampong (RGG)* program to increase coverage of specific and sensitive indicators for accelerating stunting reduction in Aceh

*Efektivitas program Rumoh Gizi Gampong (RGG) untuk meningkatkan cakupan indikator spesifik dan sensitif percepatan penurunan stunting di Aceh*

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## Abstract

Aceh is the province with the fifth highest prevalence of stunting in Indonesia by 2022, which could be due to the low coverage of specific and sensitive intervention programs. This research aims to determine the effectiveness of the *Rumoh Gizi Gampong (RGG)* program in increasing the coverage of specific and sensitive indicators for reducing stunting in Aceh. A cross-sectional design was carried out in Aceh Province from February to September 2023. The input, process, and output variables for RGG implementation were collected using interview methods with 21 RGG program managers and 23 people in charge of district nutrition programs. Specific and sensitive indicator achievements were collected using secondary data from district reports for the years 2020 and 2021. Data analysis was performed using a Dependent T-test at a confidence level of 95%. The results showed that there was an increase in the average percentage coverage of specific and sensitive indicators after the RGG program was implemented, and only the immunization coverage indicator was implemented using the yard. The results of the statistical analysis showed a significant increase in the percentage of coverage of the health insurance service coverage indicator ( $p=0,006$ ). In conclusion, the *Rumoh Gizi Gampong* program can increase the coverage of indicators to accelerate stunting reduction, so that villages can make RGG an alternative intervention to accelerate stunting reduction.

**Keywords:** Specific indicators, sensitive indicators, *Rumoh Gizi Gampong*, stunting, underfive children

## Abstrak

Aceh merupakan provinsi dengan prevalensi stunting kelima tertinggi di Indonesia pada tahun 2022, dapat disebabkan masih rendahnya cakupan program intervensi spesifik dan sensitif. Penelitian bertujuan mengetahui efektivitas Program *Rumoh Gizi Gampong* terhadap peningkatan cakupan indikator spesifik dan sensitif penurunan stunting di Aceh. Desain kuasi eksperimen dilakukan di provinsi Aceh, dilaksanakan pada Februari - Desember 2022. Variabel input, proses dan output pelaksanaan RGG, dikumpulkan dengan metode wawancara pada 21 pengelola program RGG dan 23 penanggung jawab program gizi kabupaten, dan capaian indikator spesifik dan sensitif dikumpulkan menggunakan data sekunder dari laporan kabupaten/kota tahun 2020 dan 2021. Analisis data menggunakan Uji dependent t-test pada tingkat kepercayaan 95%. Hasil penelitian menunjukkan terjadi peningkatan cakupan rerata persentase cakupan indikator spesifik dan sensitif setelah dilaksanakan program RGG, hanya indikator cakupan imunisasi penerapan pemanfaatan pekarangan. Hasil analisis statistik peningkatan persentase cakupan

signifikan pada indikator cakupan layanan jaminan kesehatan ( $p=0,006$ ). Kesimpulan, program Rumoh Gizi Gampong dapat meningkatkan cakupan indikator percepatan penurunan stunting, sehingga desa dapat menjadikan RGG menjadi salah satu alternatif intervensi percepatan penurunan stunting.

**Kata Kunci:** Indikator spesifik, indikator sensitif, Rumoh Gizi Gampong, stunting, anak balita

## Introduction

Stunting is still a global problem; an estimated 148,1 million children under five in the world suffer from stunting (UNESCAP; UNICEF; WHO, 2021). The same condition is observed in Indonesia, where 21,6% of toddlers still suffer from stunting (Kemenkes RI, 2022). Aceh is one of the provinces in Indonesia with the fifth highest prevalence of stunting. Primary Health Research (RISKESDAS) showed that the prevalence of stunting decreased from 44,6% (2007) to 37,3% (2018), and only decreased by 7,3% (Kemenkes RI, 2018). The latest results for 2022 showed that the prevalence of stunting in Aceh is 31,2% (Kemenkes RI, 2022).

This shows that in the last decade (ten years), the decrease in nutritional problems has been very small compared with the national prevalence rate. In 2018, Aceh was ranked 3rd out of 34 provinces in Indonesia, with a stunting prevalence in toddlers reaching 37,3%, meaning that one in three children under five in Aceh was stunted. Meanwhile, the stunting rate in children under two years (toddlers or baduta) was ranked 1st out of 34 provinces, with a prevalence of 37,9% (Kemenkes RI, 2018). According to the WHO criteria, a stunting prevalence of <20% is "low," a prevalence of 20–29,9% is "moderate," 30–39,9% is high, and  $\geq 40\%$  is "very high" (WHO, 2018). The prevalence of stunting in Aceh was high. However, several districts in Aceh are included in the very high category ( $>40\%$ ), namely Subulussalam, Simelue, Bener Meriah, Southeast Aceh, Gayo Luwes, East Aceh, Bireuen, and Nagan Raya, while 12 other districts have a high prevalence ( $>30\%$ ), and only four districts or cities have a moderate stunting prevalence ( $>20\%$ ), namely Kota Langsa, Aceh Singkil, Banda Aceh, and Sabang districts (Kemenkes RI, 2018).

The direct causes of malnutrition in children include stunting, low nutritional intake, improper parenting, and an unclean environment (de Onis et al., 2019). The reduction in stunting focuses on addressing the causes of nutritional problems, namely factors related to food security, especially access to nutritious food (food); social, customary,

and cultural norms related to good feeding practices for pregnant women; infant and child care; access to health services for prevention and treatment; and environmental health, which include the availability of clean water and sanitation facilities. These four factors indirectly affect the nutritional intake and health status of the mothers and children. Interventions for these four factors are expected to prevent nutritional problems, including both undernourishment and overnutrition (Mary, 2018; Amaha & Woldeamanuel, 2021; Batiro et al., 2017; Berhe et al., 2019).

The high prevalence of stunting in Aceh is strongly associated with the low quality of health and nutrition of children, especially in the first thousand days of life (Indonesia is called a 1000-HPK), both in the womb and after birth, until the age of 2 years (Ruaida, 2018). Conditions related to the health of women of childbearing age and the nutritional status of mothers during pregnancy, namely, chronic energy deficiency (CED) and anemia (Gebreyohanes & Dessie, 2022; Khan et al., 2019). RISKESDAS (2007) reported that the prevalence of CED in women aged 15–45 years in Aceh is 12,3 percent. The results of the Nutritional Status Survei in 2018 showed that only 4,1% of women of childbearing age suffered from CED, the highest being in Simelue (15,5%) and Bireuen (7,8%). Based on the results of the Nutritional Status Survey in 2018, 8,7% of pregnant women suffer from CED, and two districts have a high prevalence: Simelue (16,5%) and Aceh Tengah (13,9%). In addition, stunting is related to children's birth weight. Aceh health profile data shows that the prevalence of low birth weight tends to increase from 2013 (0,8%) to 2% in 2017 of the number of live births (Balitbangkes RI, 2018).

Stunting of infants and toddlers after birth is caused by multiple factors. Meshram et al. (2013) and Rahmad & Miko (2017), reported that malnutrition is closely related to inadequate complementary feeding and improper breastfeeding. Insufficient complementary feeding is caused by 1) malnourished food quality (low quality of micronutrients, low food diversity from

animal foods, presence of antinutritional substances, and low content (density) of energy and nutrients in complementary feeding (CF). 2) Improper feeding practices, including lower frequency and quality of feeding at the time of illness, inappropriate consistency and amount of food, and decreased appetite. 3) Food and water safety, including contamination, poor hygiene practices, and unsafe food storage and preparation. Inadequate breastfeeding, not early breastfeeding initiation (EBI), not exclusive breastfeeding, and weaning too early (Beal et al., 2018; Hanum, 2019).

Stunting is also associated with sensitive factors, including food security, sanitation, clean acid sources, clean and healthy living behaviors, the use of latrines, and poverty (AL Rahmad et al., 2013). The Government of Indonesia, through the National Team for the Acceleration of Poverty Reduction, has established 20 indicators of stunting prevention efforts, 11 specific related indicators, and nine sensitive indicators (Shauma & Purbaningrum, 2022). Provincially, the achievement of several stunting prevention indicators in Aceh remains high, whereas others remain low. Based on data from the Indonesian Toddlers Nutrition Status Survey (SSGBI) in 2019, several indicators related to low stunting prevention are as follows: only 19,6% complete basic immunization coverage, access to family planning services (9,6%), access to sanitation (68%), and toddler weighing coverage (71,8%) (Kemenkes RI, 2019). The Government of Aceh has issued Aceh Governor Regulation Number 14 of 2019 concerning integrated Stunting Prevention and Handling efforts in Aceh, so one of Aceh's local-specific programs has been established in an effort to empower communities at the village level, but the concept of implementation (program concept, human resources, implementation management, and other support) has not yet been developed, so implementation at the village level cannot be implemented (Iriansyah, 2019).

In the previous stage, the Rumoh Gizi Gampong (Village Nutrition House Program) pocketbook was developed as an intervention model to accelerate stunting reduction at the village level. This study aimed to determine the effectiveness of implementing the RGG Model in efforts to prevent stunting at the village level. developed a stunting prevention intervention model at the village level in the form of community empowerment called *Rumoh Gizi Gampong (RGG)*.

## Methods

This was an observational study with a cross-sectional design, namely, analyzing the effectiveness of the *Rumoh Gizi Gampong (RGG)* program in stunting prevention at the village level with input, process, and output approaches. This study was conducted from February to September 2023 in 23 districts and cities in Aceh. The respondents in this study amounted to 21 people, consisting of the person in charge of the nutrition program and members of the district or city Empowerment of Family Welfare, Working Group Program.

The analysis of input variables includes resource readiness, including the RGG management team, facilities, and funding; RGG implementation process variables include RGG activities and types of RGG services, and data on inhibiting factors and supporting the implementation of RGG were collected through interviews with structured questionnaires. Furthermore, output variables, namely the achievement of specific and sensitive indicators, were collected using secondary data from district and city reports for 2021 and 2022.

Data analysis was performed univariately to describe the RGG program inputs and processes, and the output data included specific and sensitive indicators. Bivariate analysis to determine the effectiveness of RGG on coverage was performed using a dependent t-test at a 95% confidence level.

## Result and Discussion

The results of the study (Table 1) show that the number of RGGs formed in Aceh in 10 districts or cities amounted to 234 (3,6%) from 6516 villages in Aceh. The highest number of RGG in Aceh Tamiang Regency was 117 (54,9% of villages), Bener Meriah had 50 RGG (21,5%), Southeast Aceh had 26 RGG (6,8%), and Bireuen had 24 RGG (3,9%). The results of this study show that the number of RGG in Aceh is still small compared to the number of villages in Aceh, meaning that the implementation of the RGG Program contained in Aceh Governor Regulation Number 14 of 2019 has not been optimal. One of the efforts was to accelerate stunting reduction in Aceh through community empowerment at the village level through the Rumoh Gizi Gampong program (Rahmah & Dahlawi, 2022).

The results also show several factors that cause many villages not to form RGG, namely, not all districts or cities in Aceh make RGG a stunting prevention innovation; RGG is still considered a specific sector program. There is no support from the village apparatus for RGG financing and management. 3). Regulations on the establishment of RGG at the provincial level already exist, but not all districts or cities follow up with the issuance of special regulations, or include RGG as part of the regent's or mayor's regulations as a form of intervention to accelerate stunting reduction. 4). The RGG program implementation mechanism has not been organized in Aceh, starting at the provincial, district, sub-district, and village levels. 5). The Aceh government has not established RGG guidelines through the Aceh Stunting Reduction Acceleration Team (TPPS); therefore, there are no official guidelines for regions to implement. Therefore, each region that has formed RGG only runs RGG limited to supplementary feeding, whereas other programs that become the concept of the RGG program are not implemented.

Several studies also show the same obstacles in the implementation of the RGG program, one of which is the result of Zukhrina & Martina's (2022) research in Aceh Besar, showing that one of the obstacles to the implementation of the RGG program is budget constraints, particularly for the provision of supplementary feeding.

### Activities carried out at RGG

The results of the study (Table 1) showed that the most dominant RGG programs and activities carried out in RGG were supplementary feeding (95,2%), growth monitoring (90,5%), counseling (81,0%), and counseling (85,7%). Other activities, such as home visits for pregnant

women, compiling stunting toddler menus, processing local food into CF, family menu surgery, Gampong Nutrition Stalls and food monitoring trees for pregnant women and toddlers, and visits for health checks, have not been carried out in all RGGs.

Similar research results on the analysis of the RGG program in Pidie show that RGG activities only focus on supplementary feeding, whereas other activities are still limited to extension services (Hafizam, 2021). Likewise, the results of Zukhrina & Martina's (2021) study in Aceh Besar show that RGG activities are still limited to providing food and supplementary food, while other RGG activities have not been implemented.

Referring to RGG activities, there should be 3 main activities that must be carried out at RGG (Ahmad et al., 2021), namely: 1. Nutrition services to at-risk groups, including increasing nutritional intake through nutrition counseling and education; family menu surgery; assistance in preparing child and family menus and monitoring children's food consumption; providing nutrition and supplementary food services; nutritional care; monitoring growth; and integrated management of sick toddlers; nutrition education and counseling, including nutrition counseling through home visits; group education (session classes); communication, education, and information on nutrition and health through the media (brochures, booklets, posters, and social media); improving family food security and security, including utilization of yards; promotion and strengthening of clean and healthy living behaviors; and family economic empowerment (Abeway et al., 2018; Chaudhary et al., 2018; Dranesia et al., 2019).

**Table 1.** Percentage of total RGG compared to number of villages by district/city in Aceh

Regency	Number of villages <sup>a)</sup>	Amount of RGG <sup>b)</sup>	%
Bener Meriah	233	50	21,5
Aceh Tengah	295	2	0,7
Aceh Tenggara	385	26	6,8
Aceh Tamiang	213	117	54,9
Aceh Besar	604	2	0,3
Kota Langsa	66	1	1,5
Kota Subulussalam	82	9	11,0
Lhokseumawe	68	1	1,5
Bireuen	609	24	3,9
Aceh Barat	321	2	0,6
ACEH	6516	234	3,6

<sup>a)</sup>BPS 2021; <sup>b)</sup>Bappeda Aceh 2021

**Table 2.** Activities that have been carried out, supporting factors and inhibiting factors in the implementation of activities at *Rumoh Gizi Gampong (RGG)*

Activities, supporting factors and obstacles in the implementation of RGG	n	%
Activities carried out at RGG		
- Supplementary Feeding (SF) for underweight children	20	95,2
- Supplementary Feeding for Pregnant Women	15	71,4
- Nutrition and Health Counseling	17	81,0
- Nutrition Counseling	18	85,7
- Toddler motherhood class	12	57,1
- Classes of pregnant women	12	57,1
- Young women's class	1	4,8
- Yard utilization	12	57,1
- Toddler growth monitoring	19	90,5
- Nutrition screening	2	9,5
- Clean and Healthy Living Behavior Program	11	52,4
- Community Based Total Sanitation Program	9	42,9
- Grocery package assistance	8	38,1
- Home visit	9	42,9
- Vitamin A supplementation services	12	57,1
- Blood Supplement Tablet service for pregnant women	12	57,1
- Young women Blood Supplement Tablet service	7	33,3
- Family economic empowerment program	4	19,0
- Other Programs	2	9,5
Factors supporting the implementation of RGG activities		
- Village apparatus support	14	66,6
- Village funds available	17	81,0
- Others (availability of facilities and community participation)	2	9,5
Inhibiting factors in the implementation of the RGG program		
- Not enough financing available	13	61,9
- The RGG management team has not been trained	15	71,4
- Lack of related cross-sector support	18	85,7
- Facilities and equipment are still limited	14	66,7
- Others	3	14,3

### The effectiveness of the RGG program on service coverage of specific and sensitive indicators

The results of the study (Table 3) showed an increase in the average coverage of specific indicators, namely, coverage of CED pregnant women receiving supplementary feeding, consumption of blood-added tablets in pregnant women, malnourished children receiving supplementary feeding, growth monitoring at the Integrated Healthcare Center, ANC visits to four pregnant women, coverage of vitamin A supplementation, zinc supplementation in children with diarrhea, including the use of iron tablets in young women, post-supplementation feeding, and classes for pregnant women. Only immunization coverage indicators did not increase. Furthermore, there was an increase in

the coverage of sensitive indicators except for the scope of yard utilization.

The results of this study are similar to those of Muliadi et al. (2023) in Aceh, which shows the coverage of specific and sensitive indicators in Aceh. Of the 19 indicators, only one indicator reached 80%, seven indicators were between 30 and 50%, and two indicators, namely, the class of mothers and poor families as recipients of non-cash food assistance coverage, were still below 30%. The results of this study are the same as those of Muthia et al. (2020) in the Pasaman district, which evaluated stunting intervention programs. They also showed that not all specific and sensitive indicators of stunting reduction have reached the set target; only the coverage of vitamin A supplementation and pregnant women with CED receiving SF have

reached the target. Similarly, the results of the study by Rahmawati & Harahap (2022) on the stunting locus area in Riau also showed that the

average coverage of specific and sensitive intervention indicators was still low (78,3% and 50,3%, respectively).

**Table 3.** The effectiveness of the *Rumoh Gizi Gampong (RGG)* Program on increasing the coverage of specific and sensitive indicators of stunting prevention

Stunting-specific and sensitive indicators	Before RGG Program (2021)		After there is RGG Program (2022)		p-value
	Mean	SD	Mean	SD	
- Pregnant women with Chronic Energy Deficiency (CED) receiving supplementary feeding (SF)	52,4	32,6	55,0	31,4	0,849
- Pregnant women receiving iron supplementation	52,7	31,8	58,8	31,1	0,648
- Children with wasting obtaining supplementary feeding	60,1	35,4	67,5	28,5	0,581
- Attendance at integrated healthcare centers (posyandu)	61,3	31,6	76,7	9,3	0,107
- Pregnant women making antenatal care (ANC) visits at least four times	48,8	31,8	61,3	25,7	0,308
- Children aged 6-59 months receiving vitamin A	71,0	38,8	86,5	18,6	0,219
- Infants aged 0-11 months having been fully vaccinated	48,9	30,9	41,5	28,0	0,554
- Young children with diarrhea receiving zinc supplementation	37,3	36,7	49,2	36,5	0,447
- Young women taking iron supplements	43,9	32,0	48,7	32,0	0,722
- Postpartum care service	51,7	32,7	69,0	22,3	0,145
- Maternity class	48,6	36,9	58,2	25,9	0,470
- Families participating in Infant and Child Development Program	14,4	25,2	35,0	33,7	0,121
- Households with adequate drinking water sources	61,5	38,4	69,1	25,0	0,572
- Households having a proper sanitation system	50,3	30,2	65,9	15,4	0,120
- Parents taking parenting classes	10,0	17,0	17,6	23,9	0,403
- Children aged 2-6 years enrolled in early childhood education	27,6	27,5	42,1	27,3	0,222
- Households participating in the National/Aceh Regional Health Insurance	54,8	38,4	89,1	11,4	0,006
- Poor families obtaining Family Development Session (FDS) on nutrition	31,0	38,6	47,3	33,9	0,294
- Poor families as recipients of Non-Cash Food Assistance	28,0	33,8	41,3	32,6	0,350
- Villages implementing sustainable reserve food garden program	29,6	42,7	25,8	27,5	0,800

p= significant at 95% confidence level; SD=standart deviation; RGG=Rumoh Gizi Gampong

### Supporting factors and constraints in the implementation of the RGG program

The results of the study (Table 2) showed that most village officials (66,7%) supported the RGG program, and almost all RGGs (81%) received

financial support from village fund allocation. Some of the main obstacles to the implementation of the RGG program (Table 2) were the lack of training of RGG managers (61,9%), lack of cross-sector support or

participation (71,4%), limited equipment or media for RGG activities (66,7%), and the fact that available funds have not been able to finance all RGG activities (66,7%).

Another obstacle is that manpower is still lacking, community support and interest are still low, vertical and cross-sector support is still lacking, village apparatus is still lacking, RGG special places for villages do not exist, special incentive budgets from village funds for RGG managers do not exist, there is no training for RGG managers, there are no village nutrition workers, and during the COVID-19 pandemic, there was a diversion of RGG funds for assistance for COVID-19 victims.

The results showed that improvements and strengthening are needed in relation to the principle of strengthening human resource capacity; coordination across sectors both vertically and horizontally; the need for special regulations related to RGG at the district and village levels; strengthening RGG organization at the district, sub-district, and village levels; and RGG advocacy on the part of village and regional stakeholders and related stakeholders. This result is almost the same as that of Jurida (2023) in Banda Aceh City, where several factors hinder the implementation of the Rumoh Gizi Gampong program related to inadequate financing and low community participation.

The results of a similar study by Palupi et al. (2022) on the *DESA EMAS* Program for stunting interventions in Malang showed that cross-sectoral cooperation and human resource availability are factors supporting the success of stunting reduction interventions. The study results of Rahmadi & Khaerani (2022) in the North Penajem Paser Regency show the role of the government and private sector in increasing the capacity of human resources in villages and the completeness of Integrated Healthcare Center facilities and infrastructure supporting the acceleration of stunting reduction, while lack of cross-sector coordination, lack of funding, sectoral egos, and public perception of stunting are inhibiting factors for intervention.

## Conclusion

The results showed an increase in the average coverage of specific and sensitive indicators of stunting prevention before and after the RGG

program, namely, coverage of CED pregnant women receiving Supplementary Feeding, consumption of blood-added tablets in pregnant women, malnourished children receiving SF, growth monitoring at the Integrated Healthcare Center, ANC visits to four pregnant women, coverage of vitamin A supplementation, zinc supplementation in children with diarrhea, consumption of iron tablets in young women, postpartum maternal services, and classes for pregnant women. Only immunization coverage indicators did not increase. There are still obstacles to the implementation of the RGG program; namely, budget availability, untrained management capacity, cross-sector support, and community participation in the Puring Health Center area are gender, maternal height, and parenting at the age of 6–8 months. Meanwhile, exclusive breastfeeding and a history of infectious diseases were not risk factors for stunting in this study.

Advice to related parties, such as the health office and the health center, to strengthen pregnancy preparation programs during pregnancy and the first two years of a child's life education on nutritional fulfillment can be started early through premarital classes, classes for pregnant women, and nutritional counseling with nutritionists, in addition to examinations carried out by midwives and obstetricians. This breaks the chain of malnutrition among generations. In addition, mothers of infants and toddlers need education and support to provide appropriate high-quality complementary food. Further studies related to the effectiveness of the program in overcoming the factors that cause stunting should be conducted.

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